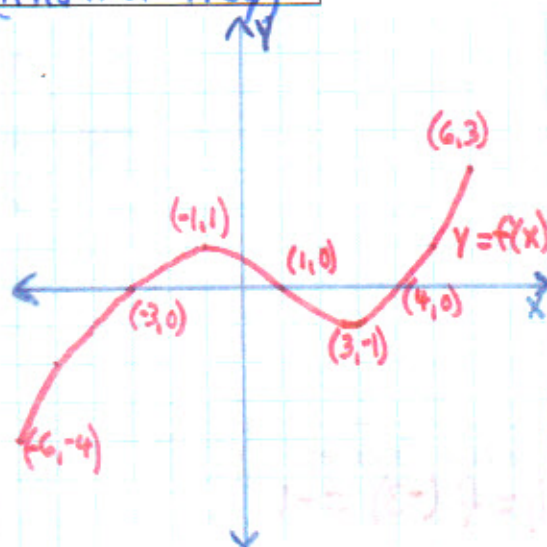


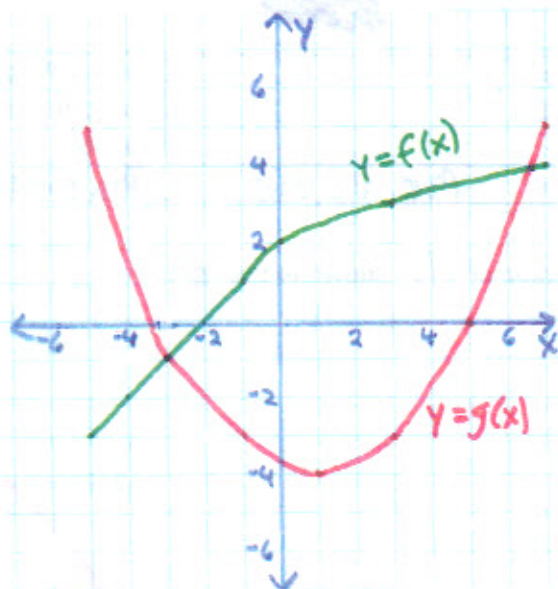
Name: Mr. Davis (Answer Key)

1. Given the graph of  $f(x)$  shown to the right:



a) Approximate the value of $f(0) = 0.7$	b) Determine the values of $x$ for which $f(x) = 0$ $x = -3, x = 1, x = 4$
c) Determine the values of $x$ for which $f(x) = 1$ $x = -1, x = 5$	d) Solve $f(x) = -1$ $x = -4, x = 3$
e) Solve $f(x) = -4$ $x = -6$	f) Is $f(-5) > f(-6)$ ? $-2 > -4$ yes
g) Is $f(2) < f(-2)$ ? $-0.8 < 0.6$ Yes	h) On what intervals is $f(x) > 0$ ? $(-3, 1) \cup (4, 6]$
i) On what intervals is $f(x) < 0$ ? $[-6, -3) \cup (1, 4)$	j) Determine the domain of $f(x)$ $[-6, 6]$
k) Determine the range of $f(x)$ $[-4, 3]$	l) Determine the maximum value of $f(x)$ $y = 3$ at $x = 6$

2. Given the graphs of  $f(x)$  &  $g(x)$  shown to the right:

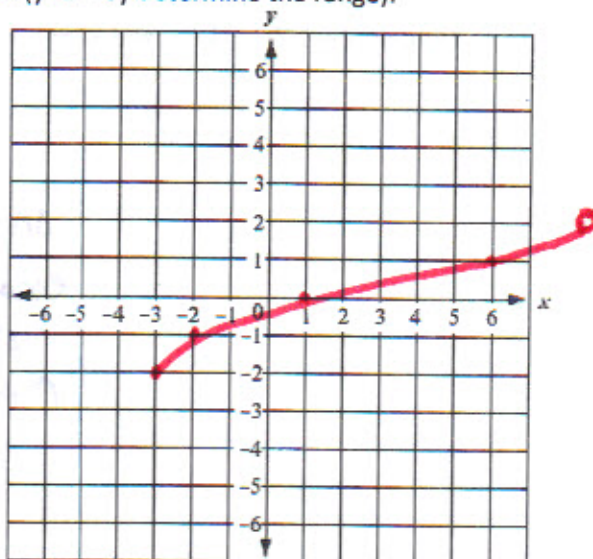


<p>a) Determine the value of <math>f(g(-1))</math>  <math>f(g(-1)) = f(-3) = -1</math></p>	<p>b) Determine the value of <math>g(f(-2))</math>  <math>g(f(-2)) = g(0) = -3.75</math></p>
<p>c) On what interval is the graph of <math>f(x)</math> increasing?  <math>[-5, 7]</math></p>	<p>d) On what interval is the graph of <math>g(x)</math> decreasing?  <math>[-5, 1]</math></p>
<p>e) Determine the value of <math>f(-5) + g(-5)</math>  <math>-3 + 5</math>  <math>2</math></p>	<p>f) Determine the value of <math>f(7) \times g(7)</math>  <math>4 \times 5</math>  <math>20</math></p>
<p>g) For what value of <math>x</math> does the graph of <math>f(x)</math> have a relative maximum value?  <math>x = 7</math></p>	<p>h) What is the maximum value at the point in part g)?  <math>y = 4</math></p>
<p>i) For what value of <math>x</math> does the graph of <math>g(x)</math> have a relative minimum value?  <math>x = 1</math></p>	<p>j) What is the minimum value at the point in part i)?  <math>y = -4</math></p>
<p>k) How many times does the line with equation <math>y = -3</math> intersect the graph of <math>g(x)</math>?          Twice, at <math>x = -1</math> and at <math>x = 3</math></p>	

3. Sketch a graph of a function that has the given domain (you may determine the range).

Domain:  $[-3, 8)$

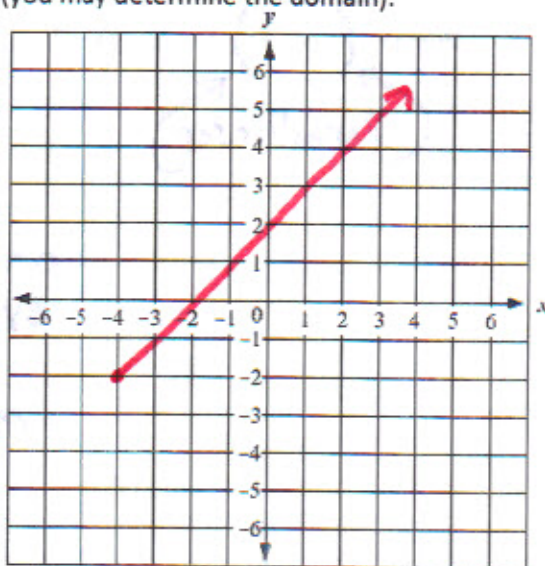
one  
example  
of  
many



4. Sketch a graph of a function that has the given range (you may determine the domain).

Range:  $[-2, \infty)$

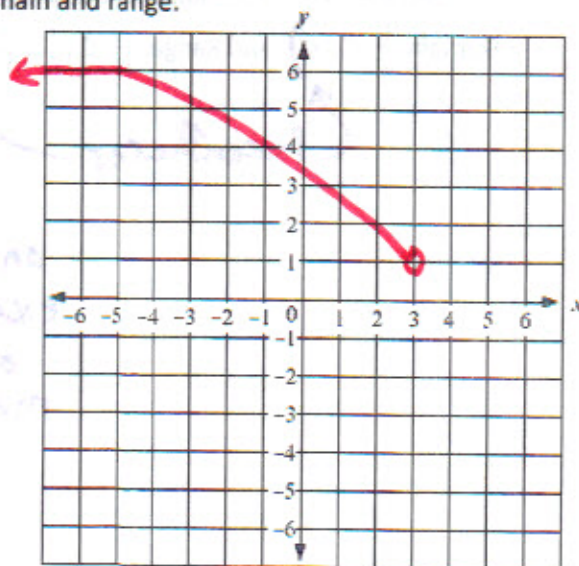
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many



5. Sketch a graph of a function that has the given domain and range.

Domain:  $(-\infty, 3)$  and Range:  $(1, 6]$

one  
example  
of  
many

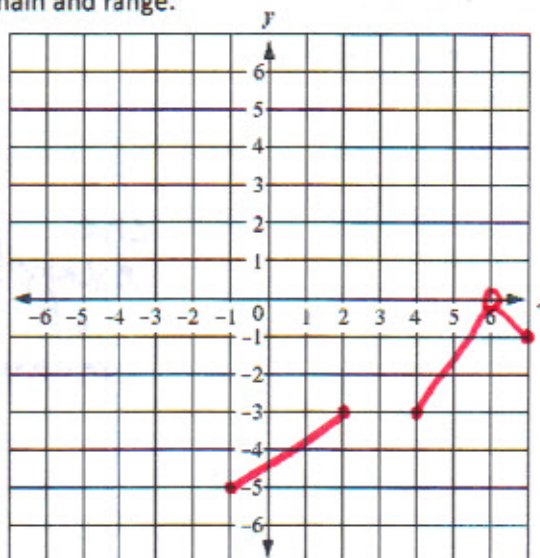




6. Sketch a graph of a function that has the given domain and range.

Domain:  $[-1, 2] \cup [4, 7]$  and Range:  $[-5, 0]$

one  
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many

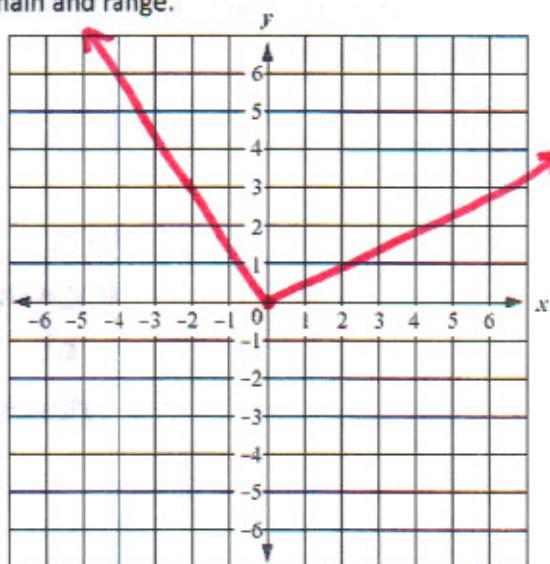


7. Sketch a graph of a function that has the given domain and range.

Domain:  $(-\infty, \infty)$  and Range:  $[0, \infty)$

Parentheses

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of  
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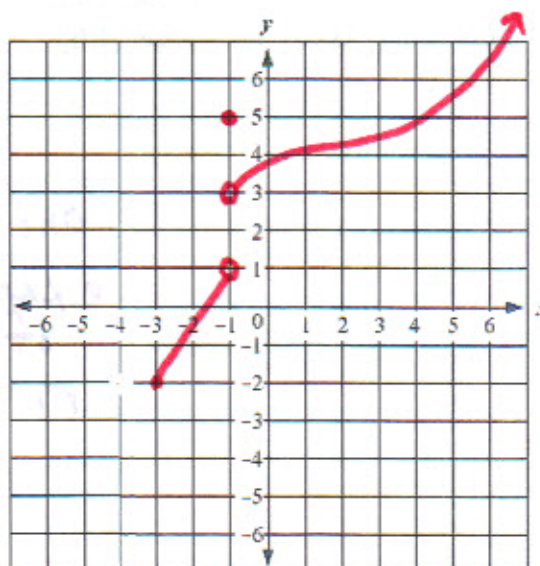


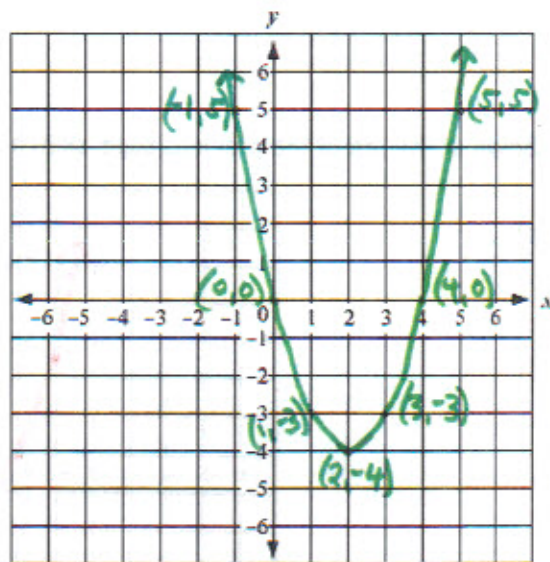
8. Sketch a graph of a function that has the given domain and range.

Domain:  $[-3, \infty)$  and Range:  $[-2, 1) \cup (3, \infty)$

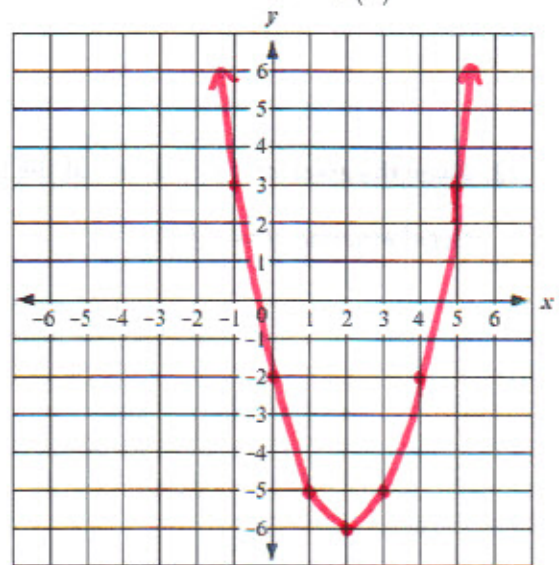
Parentheses

one  
example  
of  
many

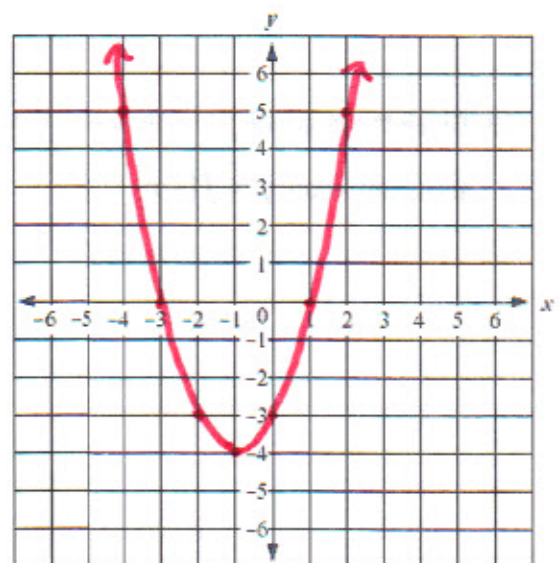




9. Given the graph of  $f(x)$  show above, sketch a graph of the transformation  $y = f(x) - 2$

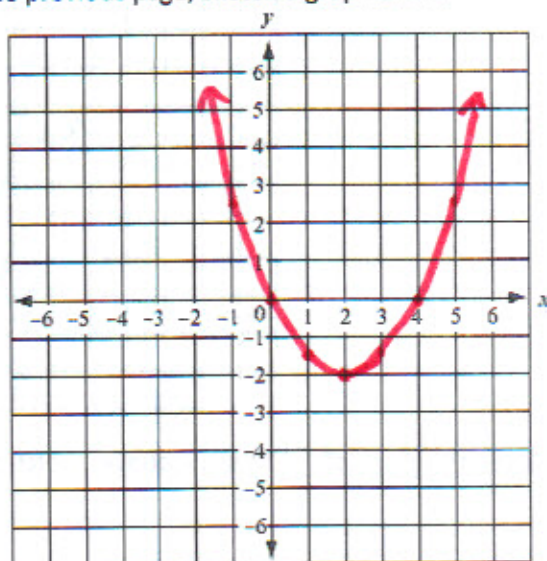


10. Given the graph of  $f(x)$  show above, sketch a graph of the transformation  $y = f(x + 3)$



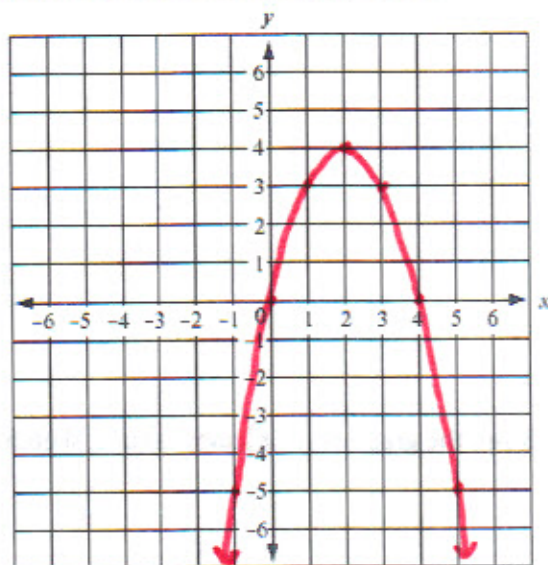
11. Given the graph of  $f(x)$  shown at the top of the previous page, sketch a graph of the

transformation  $y = \frac{1}{2}f(x)$



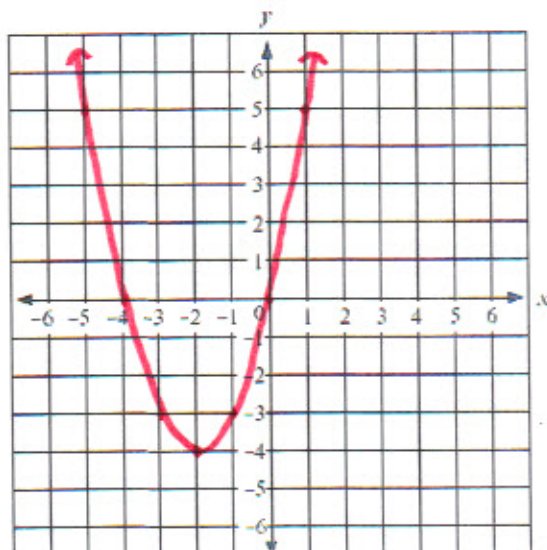
12. Given the graph of  $f(x)$  shown at the top of the previous page, sketch a graph of the

transformation  $y = -f(x)$



13. Given the graph of  $f(x)$  shown at the top of the previous page, sketch a graph of the

transformation  $y = f(-x)$

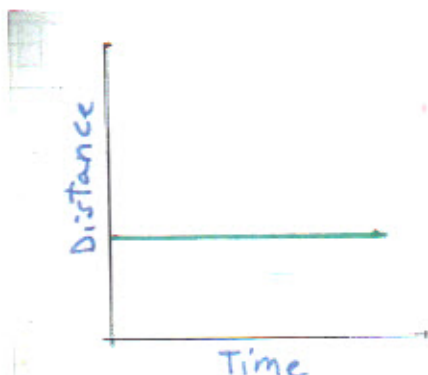




14. Match the descriptions with their appropriate time-distance graphs.

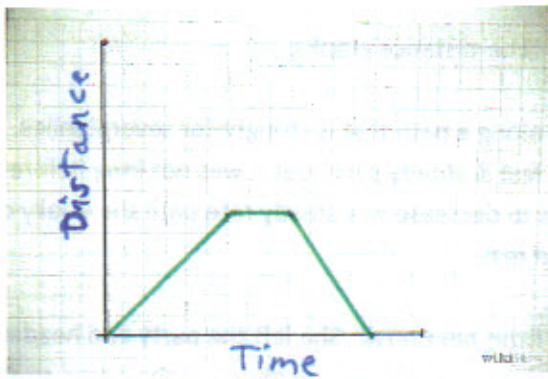
- a. Jennifer left her house and went for a run along a path that is straight for several miles. She started running away from her house at a fast & steady pace, but it was not long before her energy level diminished so her pace began to decrease at a steady rate until she finally came to a complete stop to catch her breath and rest.
- b. Sarah was attending a party several miles from her house. She left the party and headed home at a fairly steady pace. Then she realized she left her cell phone at the party, so she turned around and drove back to the party to retrieve her phone. After doing this, she headed back home and arrived safely.
- c. Deandre left his house and drove to a car wash. After five minutes in the car wash, Deandre was able to drive home faster in very light traffic.
- d. Darren left his friend's house, heading for home on his bike traveling at a slow pace. After about a mile, he picked up his pace and rode at a moderate pace. After another mile, when Darren was warmed up, he picked up the pace and rode the final mile at a very fast pace.
- e. Samantha left her friend's house and walked briskly to another friend's house even farther from her own house. She hung out with her second friend for a while, then she walked slowly home because she was feeling a bit tired.
- f. Samir waited at the bus stop several blocks from his house for quite some time, but his bus never arrived at that stop.
- g. Angelina walked from her own house to the bakery nearby, then she grabbed the bus to deliver the baked goods to her grandmother. After visiting for a while, Angelina left her grandmother's house, taking the bus to the candy shop half way home. She decided to walk the rest of the way home so she could finish all her candy so mom would not see it when she arrived home.

1.



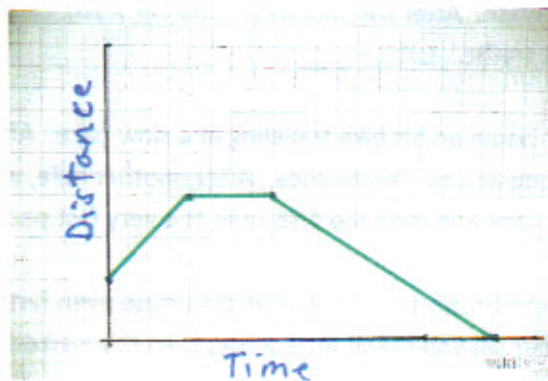
f.

II.



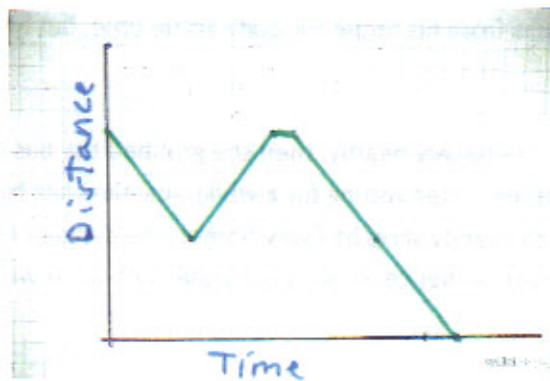
c.

III.



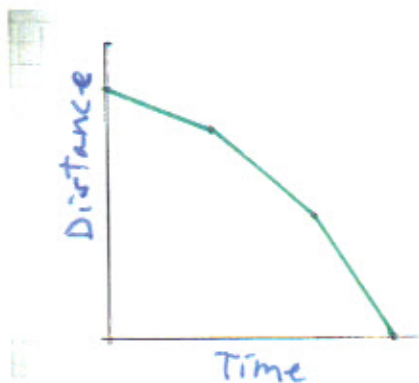
e.

IV.



b.

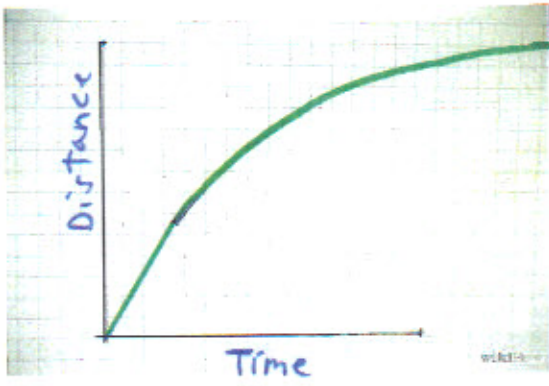
V.



d.

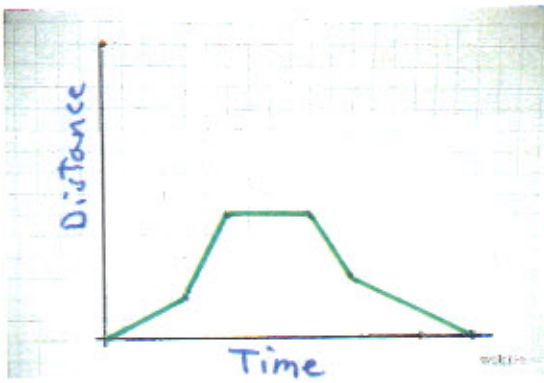


VI.



a.

VII.



g.